

REMARKS

This is in response to the Final Office Action mailed June 3, 2005. In the Office Action, the Examiner rejected claims 1, 4, 5, 7, 10, 11, 17, 18, 22 and 23. Reconsideration of the application is respectfully requested.

Rejections - 35 U.S.C. §103

In section 2 of the Office Action, the Examiner rejected claims 1, 4, 5, 7, 10, 11, 17, 18, 22 and 23 under 35 U.S.C. §103(a) as being unpatentable over Tanaka et al. (U.S. Patent No. 6,128,166) in view of Cohen et al. (U.S. Patent No. 5,703,740) and/or Chang et al. (U.S. Patent No. 6,542,331). The Examiner found FIG. 7 of Tanaka et al. to disclose "a single write pole 26 separated from a write coil 27 by an insulating material, and a MR element 24 between shield layers 23." The Examiner also identified Tanaka et al. as not disclosing a helical coil arrangement. However, the Examiner found Cohen et al. and/or Chang et al. to disclose such the claimed helical coil arrangement. Finally, the Examiner concludes that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have the coil of Tanaka et al take on a helical arrangement . . . [and that the] motivation would have been: such a coil arrangement was an effective manner in which to provide an increased number of turns and to increase efficiency."

Applicants respectfully believe that the rejections of independent claims 1, 7, and 17 are improper. In general, Applicants submit that: 1) the cited references, when combined, fail to teach all of the claimed elements of independent claims; 2) Tanaka et al. fail to provide enabling disclosure of the claimed writing element (less the conducting coil); and 3) there

is no motivation or suggestion to combine either Cohen et al. or Chang et al. with Tanaka et al.

All Claimed Elements Not Taught

In rejecting independent claims the Examiner fails to identify where the cited references teach a writing element "wherein the magnetic signals are not conducted to the writing pole at the back gap region through a return pole element" as described in claims 1 and 7, or "wherein magnetic signals are not conducted to the perpendicular writing means at a back gap region through a return pole element" as described in claim 17. Instead, the Examiner only identifies FIG. 7 as providing the disclosure quoted above. Accordingly, Applicant submits that the rejections of independent claims 1, 7 and 17 are improper since the cited references fail to teach all of the claimed features.

Non-Enabling Disclosure

Applicant further submits that it would be improper to rely on FIG. 7 of Tanaka et al. as describing the features of independent claims 1, 7 and 17 described above, because the disclosure is non-enabling of those features. "In order to render a claimed apparatus or method obvious, the prior art must enable one skilled in the art to make and use the apparatus or method." Rockwell International Corp v. United States, 147 F.3d 1358, 47 U.S.P.Q.2d 1027, 1032 (Fed. Cir. 1998). Additionally, "[t]o be enabling, the specification of the patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation." Durel Corp. v. Osram Sylvania Inc., 256 F.3d 1298, 59 U.S.P.Q.2d 1238, 1244 (Fed. Cir. 2001). Thus, as described in 35 U.S.C. §112, first paragraph, the reference must describe the feature of the claimed invention "in such full, clear, concise and exact terms as to

enable any person skilled in the art . . . to make and use the same"

Tanaka et al. fail to provide a single instance of discussion that the recording/reproducing system includes the above-identified features of claims 1, 7 and 17. As a result, the Examiner will be forced to extract the disclosure of those features from either another prior art reference or from FIG. 7. Applicant submits that it would be improper to rely on FIG. 7.

In particular, FIG. 7 is a sectional view of a recording/reproducing system taken at an unknown location and FIG. 7 is not provided to describe the details of the structure of the system. Rather, FIG. 7, as evidenced by the corresponding written description, is provided for the purpose of describing a relationship between a recording track width (Tw) of the recording head, a reproduction track width (Tr) of the reproducing head, a gap length (g), and a pitch (Tp) of the recording tracks of the recording medium. As a result, the illustration of FIG. 7 is a highly simplified illustration of the system whose focus is not on the structure of the cited write pole 26, but on the relationships provided above.

As a result, it is impossible to ascertain, solely from FIG. 7, that the structure of pole 26 is in accordance with the writing poles and means of claims 1, 7 and 17, since the remaining structure of the apparatus is unknown. Therefore, FIG. 7, by itself, can not be considered enabling disclosure of the writing poles and means of claims 1, 7 and 17 and the features described above.

Applicant submits that it is immaterial whether FIG. 7 "depicts relationships but also depicts structural features in a manner and in a degree of comprehensiveness comparable to other prior art references in the art" as stated by the Examiner. In particular, it is immaterial whether FIG. 7 comprehensively

describes certain features, such as the recording and reproducing track widths, etc., particularly when combined with the written support of the specification, when it fails to describe the features of claims 1, 7 and 17 in an enabling manner.

No Motivation To Combine The References

Applicants submit that there is insufficient motivation or suggestion to combine Cohen et al. or Chang et al. with Tanaka et al. in an attempt to form the writing elements described in independent claims 1, 7 and 17 of the present application. The Federal Circuit has stated, "virtually all [inventions] are combinations of old elements." Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983). Accordingly, in a proper obviousness determination, "[w]hether the changes from the prior art are 'minor', . . . the changes must be evaluated in terms of the whole invention, including whether the prior art provides any teaching or suggestion to one of ordinary skill in the art to make the changes that would produce the patentee's . . . device." Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 935, 15 USPQ2d 1321, 1324 (Fed. Cir.), *cert. denied*, 498 U.S. 920 (1990). This includes what could be characterized as simple changes, as in In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (Although a prior art device could have been turned upside down, that did not make the modification obvious unless the prior art fairly suggested the desirability of turning the device upside down). Thus, "there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant". In re Lee, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002) citing In re Dance, 48 USPQ2d 1596, 1600 (Fed. Cir. 1988).

The Examiner's finding that Cohen et al. and Chang et al.

teach that helical coil arrangements can be used to "provide an increased number of turns and to increase efficiency", is insufficient to provide the necessary motivation to combine the references. The mere suggestion that increased efficiency may be possible in the writing element of Tanaka et al. if it was modified to include a helical coil arrangement, does not, by itself, provide the required motivation to make the modification, since Tanaka et al. fail to express any need for the suggested benefits. In particular, Tanaka et al. fail to provide any suggestion of a need for a helical coil arrangement having an increased number of turns, or one having increased efficiency. Accordingly, Tanaka et al. fail to provide any suggestion or motivation to modify its writing element to include the helical coil arrangement of either Cohen et al. or Chang et al.

Additionally, both Cohen et al. and Chang et al. utilize magnetic writing elements that include return pole elements (see magnetically conductive elements 26 and 59 in FIGS. 6(b), 7(a) and 8 of Cohen et al.; pole P1 shown in FIGS. 5-11 of Chang et al.). Accordingly, neither Cohen et al. nor Chang et al. provide any suggestion of using their helical coil arrangements with writing elements that lack such return pole elements. As a result, even if one finds that Tanaka et al. disclose, in an enabling manner, all of the features of claims 1, 7 and 17 less the helical coil, there is no motivation or suggestion to make the modification.

Furthermore, the Examiner found Tanaka et al. as lacking a "back area" connecting a pair of poles that would allow the structure for multiple coil turns. However, as pointed out by the Examiner, Tanaka et al. provide a short side extension or nub around which the coil 27 surrounds. Accordingly, if Tanaka et al. had a need for additional coil turns around the nub, one would assume that the nub would be extended to accommodate such

additional turns. However, Tanaka et al. fail to express any motivation for additional coil turns, or suggest modifying the nub of writing element to accommodate them.

Without such a modification, the system of Tanaka et al., illustrated in FIG. 7, cannot support a helical coil arrangement, or additional coils, due to a lack of space, since it only provides room for a single loop of coil 27 around the nub of the main recording magnetic pole film 26. Thus, the system of Tanaka et al. would require a substantial redesign to extend the nub in order to accommodate the helical coil arrangement of either Cohen et al. or Chang et al. Such a substantial redesign negates any suggestion of making the modification. See In re Ratti, 270 F.2d 810, 123 USPQ 349 (C.C.P.A. 1959).

As a result, the Examiner must rely upon an Applicants' disclosure to provide the suggestion or motivation for the combination in order to discern any "obviousness" of the present invention. Such use of hindsight is improper. In re Lee, 61 USPQ2d 1430 (Fed. Cir. 2002) ("It is improper, in determining whether a person of ordinary skill in the art would have been led to this combination of references, simply to '[use] that which the inventor taught against its teacher.'") (quoting W.L. Gore v. Garlock, Inc., 220 USPQ 303, 312-13 (Fed. Cir. 1983)).

Accordingly, Applicants submit that independent claims 1, 7 and 17 are non-obvious in view of Tanaka et al. and Cohen et al. and/or Chang et al. Additionally, Applicants submit that all claims depending from independent claims 1, 7 and 17 are allowable as being dependent from allowable base claims, and request that the rejections be withdrawn.

Conclusion

In view of the above comments and remarks, it is believed that the present application is in condition for allowance. Consideration and favorable action is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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